

## **Coast Guard Curatorial Services Policy for Borrowing Fresnel Lenses**

Fresnel lenses represent a unique aspect of U.S. Coast Guard history. These artifacts are highly sought by a wide variety of museums and associations. Due to their historic significance, fragility, high value and the U.S. Coast Guard's policy to protect and preserve these artifacts, a lens specific set of conditions is required for prospective borrowing organizations. Requirements for the care, security, and display of Fresnel lenses are as follows:

### **Facility**

- Due to harsh environmental conditions, temperature fluctuations and the impossibility of maintaining museum standard conditions, Fresnel lenses are not to be placed in lantern rooms or be relit for navigational purposes, in or outside of lantern rooms.
- Lenses are to be placed in museum settings or restored keeper's quarters with controlled access by staff, theft prevention and security safeguards.
- Use of museum standard display techniques and barriers (to prevent unauthorized handling and damage) such as UV protective Plexiglas exhibit cases, ropes or partitions is required.
- A lens must be exhibited in a low-traffic area free of debris, obstructions, and vibrations.
- The lens exhibition/display area must be accessible to all visitors.

### **Environment and Lighting**

- Overall environmental stability is a very important aspect of long term preservation.
- Temperature range 60 to 75 degrees F.
- Relative humidity 45 to 55%
- Relative humidity must be monitored and stable. Extreme, rapid fluctuations in light, temperature, and relative humidity are very damaging and are not permitted.
- Direct sunlight or intense indoor lighting must be avoided. Light damage is cumulative and irreversible and will discolor the optical glass prisms.
- Use of UV filters and/or shades on windows is required if the lens is situated near a window.
- Light exposure must be kept at a minimum. Such exposure will speed up and increase degradation of Litharge (lead based putty that helps seal the prisms within the brass framework). Once Litharge dries and cracks, the underlying wood wedges that hold the prisms within the metal frame will deteriorate and potentially rot causing the prisms to loosen and fall out.
- Only lower wattage bulbs and low heat emitting LED lights for purposes of exhibit illumination are permitted.
- Prospective borrowers in areas prone to natural disasters (hurricanes/earthquakes) may not be permitted to borrow a lens or may be subject to additional special loan considerations.

### **Where applicable, interpretation of lens should include the following:**

- Local maritime history and location.
- Original use, structure, location, and history of the Fresnel lens.
- History of the U.S. Lighthouse Establishment and the U.S. Coast Guard.
- Current uses by the U.S. Coast Guard and private groups.
- Restoration and preservation issues.

### **Restoration and conservation of historic lenses**

**NOTE:** Three standard museum treatments for historic lenses are:

1. **Stabilization:** minimal treatment/work on a lens or lens part that ensures sufficient structural soundness in order to withstand disassembly, movement, or display.
  2. **Conservation:** extensive repair of a lens or lens part that has suffered damage due to use, age, or some environmental or natural disaster.
  3. **Restoration:** extensive treatment that involves bringing the entire lens apparatus back to its original condition or state.
- Borrowing organizations will need specific permission from U.S. Coast Guard curatorial staff before any efforts are made to polish, treat, restore, conserve or otherwise alter a Fresnel lens on loan from the U.S. Coast Guard.
  - Glass elements may be given a light dusting and cleaning using approved methods and materials outlined by the U.S. Coast Guard curatorial staff.
  - Under no circumstances will mercury be placed in mercury float lenses.
  - Detailed exhibit plans and environmental and records must be submitted to the U.S. Coast Guard curatorial staff before a museum or organization may be considered for a Fresnel lens loan.
  - U.S. Coast Guard curatorial services retains the authority to require the borrower to cover the costs of having a lens professionally evaluated, disassembled, crated, shipped, and reassembled at the borrowing organization's facility.
  - Fresnel lenses will be considered for loan only on a long-term basis.
  - Any work done on a U.S. Coast Guard lens must be fully insured by the lampist or conservator doing the work.
  - A slow rotation of the lens is permitted only when the original wheeled mechanism is not being used. Prior approval is required.
  - Lenses and associated original mechanical apparatus are to be used for display purposes only, no consumptive use is permitted.

### **Financial issues**

- Prospective borrowing organizations must have appropriate financial and staff resources on hand to care for and maintain a lens on an ongoing and long term basis.
- Private, non-profit borrowers are required to carry full value insurance coverage (up to one million dollars) on a loaned lens for the entire time they have the lens in their custody.

**I have read and agree to the above policy for borrowing Fresnel lenses and certify that I am authorized to agree thereto:**

NAME: \_\_\_\_\_ TITLE: \_\_\_\_\_  
(Print)

SIGNATURE: \_\_\_\_\_ DATE: \_\_\_\_\_  
(Borrower or Authorized Agent)

APPROVED FOR THE U.S. COAST GUARD:

NAME: \_\_\_\_\_ TITLE: \_\_\_\_\_

SIGNATURE: \_\_\_\_\_ DATE: \_\_\_\_\_  
(For the Commandant)

Please contact Coast Guard Curatorial Services with any questions or concerns regarding Fresnel lenses or loan from the U.S. Coast Guard.

**Coast Guard curator: 301-763-4008**

**Coast Guard collections manager: 301-763-4007**

**Curatorial Services fax #: 301-763-4009**